

Navigational Sensors

SANS (1-axis), DANS (2-axis), TANS (3-axis)

Type KCD16358, KCD17627,
KCD14645

Measuring modules for dynamic yaw rate measurement.

- Simultaneous measurement in up to 6 axes (3-axis gyro plus 3-axis accelerometer)
- ± 3 g accelerometer
- ± 150 °/s gyro
- Temperature range: $-40 \dots 85$ °C
- Compact and light-weight
- Case made of anodized die-casting aluminum



Description

These navigation sensors combine a tri-axial MEMS gyro with a single-, dual- or tri-axial accelerometer in a single, compact housing.

Application

- Measurement of yaw and roll rate
- Slip angle correction
- Position and motion sensing

Technical Data

Performance Specifications Gyro

Sensitivity		
Value (nominal)	°/s	± 150
	mV/°/s	12,5
Tolerance		
	%FSO	± 10
Zero rate bias output		
Value (nominal)	VDC	+2,5
Tolerance		
	mV	± 100
Full scale span		
Value (nominal)	VDC	± 2
Tolerance		
	%FSO	± 10
Frequency response		
Value (nominal)	Hz	25
	dB	-3
Tolerance		
	%	± 20
RMS equivalent noise		
Value (nominal) RMS Gauss	°/s	1
	Hz	25
Tolerance		
	%	± 25
Non-linearity		
	%FSO	$\pm 0,3$

Transverse sensitivity		
Value (nominal)	°/s/G	0,2
Tolerance		
	%	± 25
Zero rate bias drift (max.)		
	mV	200

Performance Specifications Accelerometer

Sensitivity		
Value (nominal)	g	± 3
	mV/g	666
Tolerance		
	%FSO	± 1
Zero rate bias output		
Value (nominal)	VDC	+2,5
Tolerance		
	mV	± 100
Full scale span		
Value (nominal)	VDC	$\pm 2,0$
Tolerance		
	%FSO	± 10
Frequency response		
Value (nominal)	Hz	10
	dB	-3
Tolerance		
	%	± 10
RMS equivalent noise		
Value (nominal) RMS Gauss	μ g	800
	Hz	10
Tolerance		
	%	± 15
Non-linearity		
Value (nominal)	%FSO	$\pm 0,2$
Tolerance		
	%	25

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Technical Data (Continuation)

Performance Specifications Accelerometer

Alignment		
Value (nominal)	°	±3
Tolerance	°	±1
Transverse sensitivity		
Value (max.)	%FSO	±3
Zero rate bias drift (max. at -40 ... +85 °C)	g	0,2

System Specifications

Power supply		
Value (nominal)	VDC	8 ... 42
Supply current (no load)		
Value (nominal)	mA	60
Tolerance	mA	±10
Temperature range		
Operation	°C	-40 ... 85
Storage	°C	-65 ... 105
Dimensions (LxWxH) approx.	mm	102x57x35
Weight		
Value (nominal)	grams	230
Tolerance	grams	±25
Shock		
Operation	g	1 000
Transport	g	2 000

Note: Additional ranges and limit frequencies available.

Dimensions

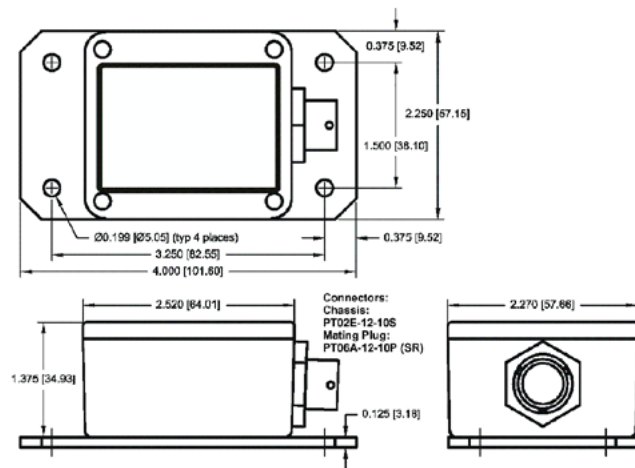


Fig. 1: Dimensions TANS

Pin Assignment

Pin	Color	Function
A	yellow	accel axis A2
B	white	accel axis A1
C	brown	gyro axis A4
D	blue	signal GND
E	black	DC GND
F	red	DC power supply
G	shield	shield
H	green	accel axis A3
J	orange	gyro axis A5
K	purple	gyro axis A6

Note: Cables are not included in the scope of delivery and must be ordered additionally.

Cables

- 6 pin LEMO signal cable for SANS, l = 5 m
- 6 pin LEMO signal cable for DANS, l = 5 m
- 6 pin LEMO signal cable for TANS, l = 5 m

Ordering No.

- 55063789
- 55063790
- 18012858

Other cables on request.

Ordering Code

- SANS: rate gyro 1-axis (±3 g, ±150 °/s)
- DANS: rate gyro 2-axis (±3 g, ±150 °/s)
- TANS: rate gyro 3-axis (±3 g, ±150 °/s)

Ordering No.

- 22000600
- 22000640
- 22000327

Other measuring ranges on request.

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